

HP StorageWorks HA-Fabric Manager Appliance Installation guide

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About this guide

This installation guide provides information to help you:

- Set up and connect the one rack unit (1U) high rack-mount HA-Fabric Manager (HAFM) appliance.
- Configure HAFM appliance features.
- Back up and restore the HAFM appliance.
- Install the HAFM appliance and its slide-out shelf into a supported equipment cabinet.
- Install or upgrade HAFM software.
- Troubleshoot and resolve HAFM appliance and application problems.

Intended audience

This book is intended for use by administrators and technicians who are experienced with the following:

- Fibre Channel technology.
- StorageWorks Fibre Channel switches by Hewlett-Packard.

Related documentation

For a list of corresponding documentation, see the Related Documents section of the Release Notes that came with this product. For the latest information, documentation, and firmware releases, please visit the HP StorageWorks web site:

<http://h18006.www1.hp.com/storage/saninfrastructure.html>.

For information about Fibre Channel standards, visit the Fibre Channel Industry Association web site, located at: <http://www.fibrechannel.org>.

Document conventions and symbols

This document follows the conventions in [Table 1](#).

Table 1 Document conventions

Convention	Element
Medium blue text: Figure 1	Cross-reference links and e-mail addresses
Medium blue underlined text (http://www.hp.com)	Web site addresses
Bold font	<ul style="list-style-type: none">Key namesText typed into a GUI element, such as into a boxGUI elements that are clicked or selected, such as menu and list items, buttons, and check boxes
<i>Italics</i> font	Text emphasis
Monospace font	<ul style="list-style-type: none">File and directory namesSystem outputCodeText typed at the command-line
<i>Monospace, italic font</i>	<ul style="list-style-type: none">Code variablesCommand-line variables

WARNING!

Text set off in this manner indicates that failure to follow directions in the warning could result in bodily harm or death.

CAUTION:

Text set off in this manner indicates that failure to follow directions could result in damage to equipment or data.



NOTE:

Text set off in this manner presents commentary, sidelights, or interesting points of information.

Rack stability

Rack stability protects personnel and equipment.



WARNING!

To reduce the risk of personal injury or damage to the equipment, be sure that:

- The leveling jacks are extended to the floor.
- The full weight of the rack rests on the leveling jacks.
- In single rack installations, the stabilizing feet are attached to the rack.
- In multiple rack installations, the racks are coupled.
- Only one rack component is extended at any time. A rack may become unstable if more than one rack component is extended for any reason.

HP technical support

Telephone numbers for worldwide technical support are listed on the HP support web site:<http://www.hp.com/support/>.

Collect the following information before calling:

- Technical support registration number (if applicable)
- Product serial numbers
- Product model names and numbers
- Applicable error messages
- Operating system type and revision level
- Detailed, specific questions

For continuous quality improvement, calls may be recorded or monitored.

HP strongly recommends that customers sign up online using the Subscriber's choice web site at <http://www.hp.com/go/e-updates>.

- Subscribing to this service provides you with e-mail updates on the latest product enhancements, newest versions of drivers, and firmware documentation updates as well as instant access to numerous other product resources.
- After signing up, you can quickly locate your products by selecting **Business support** and then **Storage** under Product Category.

If you still have a question after reading this guide, contact an HP authorized service provider or access our Web site: <http://www.hp.com>.

HP authorized reseller

For the name of your nearest HP-authorized reseller:

- In the United States, call 1-800-345-1518.
- Elsewhere, visit the HP web site: <http://www.hp.com>. Then click Contact HP to find locations and telephone numbers.

Helpful web sites

For third-party product information, see the following HP web sites:

- <http://www.hp.com>
- <http://www.hp.com/go/storage>
- <http://www.hp.com/support/>
- <http://www.docs.hp.com>

1 Initial setup

HAFM appliance description

The HAFM appliance (Figure 1) is a one rack unit (1U) high rack-mount device with the High Availability Fabric Manager (HAFM) application installed. HAFM provides a graphical user interface (GUI) for operating and managing the Directors and Edge Switches.



Figure 1 HAFM appliance

The HAFM appliance also includes a TightVNC Viewer version 1.2.7 client-server software control package that provides remote network access (through a standard web browser) to the server desktop, enabling remote users to manage the Directors and Edge Switches using the HAFM and Element Manager applications. For information about the TightVNC Viewer, refer to <http://www.tightvnc.com>.



NOTE:

The HAFM appliance and related applications provide a GUI to monitor and manage Directors and Edge Switches, and are a dedicated hardware and software solution that should not be used for other tasks. HP tests the HAFM application installed on the HAFM appliance, but does not compatibility test other third-party software. Modifications to the HAFM appliance hardware or installation of additional software (including patches or service packs) are not supported, and may interfere with normal operation.

Front panel

Figure 2 shows the HAFM appliance front panel indicators and controls.



Figure 2 HAFM appliance front panel features

① — Push label (opens LCD panel)	⑤ — LAN 1 status indicator
② — Liquid Crystal Display (LCD)	⑥ — LAN 2 status indicator
③ — Hard Disk Drive (HDD) LED	⑦ — LCD navigation buttons
④ — Fan LED	⑧ — Power on/off button

Factory defaults

Table 2 lists factory-set defaults for the HAFM appliance.

Table 2 Factory-Set Defaults (HAFM appliance)

Item	Default
Liquid crystal display (LCD) front panel password	9999
Tight VNC Viewer password (case sensitive)	password
Windows 2000 operating system user name (case sensitive)	Administrator
Windows 2000 operating system password (case sensitive)	password
HAFM application user name (case sensitive)	Administrator
HAFM application password (case sensitive)	password
LAN 1 (public interface)	IP address
Subnet mask	255.0.0.0
Gateway address	0.0.0.0
LAN 2 (private interface)	IP address
Subnet mask	255.0.0.0
Gateway address	0.0.0.0

Kit contents

The fully-configured HAFM appliance is delivered with a:

- HAFM appliance with the following minimum specifications:
 - Intel® Pentium® 4 processor with an 1,800 megahertz (MHz) or greater clock speed.
 - 1,024 megabyte (MB) or greater RAM.
 - 40 gigabyte (GB) or greater internal hard drive.
 - 1.44 MB 3.5-inch slim-type disk drive and slim-type compact disk-rewritable (CD-RW) drive.
 - 56K internal modem and modem adapter with RJ-11 connector.
 - Two 10/100 Mbps Ethernet adapters with RJ-45 connectors.
 - Hinged liquid crystal display (LCD) front panel.
 - Microsoft Windows® 2000 Professional operating system.
 - TightVNC™ Viewer Version 1.2.7 client-server software control package that provides remote network access (through a standard web browser) to the HAFM appliance desktop.

Current platforms may ship with more enhanced hardware, such as a faster processor, additional random-access memory (RAM), or a higher-capacity hard drive.

- Ship group kit, containing:
 - HAFM appliance.
 - Ten (10) square alignment washers (required for rack-mounting in HP 9000, 10000 and 11000 series racks).
 - HAFM application CD-ROM.
 - HAFM boot/restore CD-ROM.
 - Norton AntiVirus CD-ROM.
 - Modem cable with RJ-11 connectors.
 - CD-RW (blank).
 - HAFM Release Notes.
 - 10-ft. Ethernet cable.
 - PDU power cord.
 - 110-volt AC power cord.
 - Null modem cable.
 - Modem phone cable.
 - Generic documentation for the HAFM appliance.
- Rack-mount hardware kit, containing:
 - Two (2) rear brackets (short) that attach to the cabinet (3.0 inches).
 - Two (2) optional rear brackets (long) that attach to the cabinet (15.25 inches).
 - One (1) left slide rail that attaches to the HAFM appliance (19.25 inches).
 - One (1) right slide rail that attaches to the HAFM appliance (19.25 inches).
 - Two (2) two-hole bar nuts for bolting the front and rear brackets together.
 - Four (4) three-hole bar nuts for attaching the brackets to the rack-mounting standards.

Figure [Figure 3](#) illustrates the front and rear brackets, slide rails, and bar nuts.

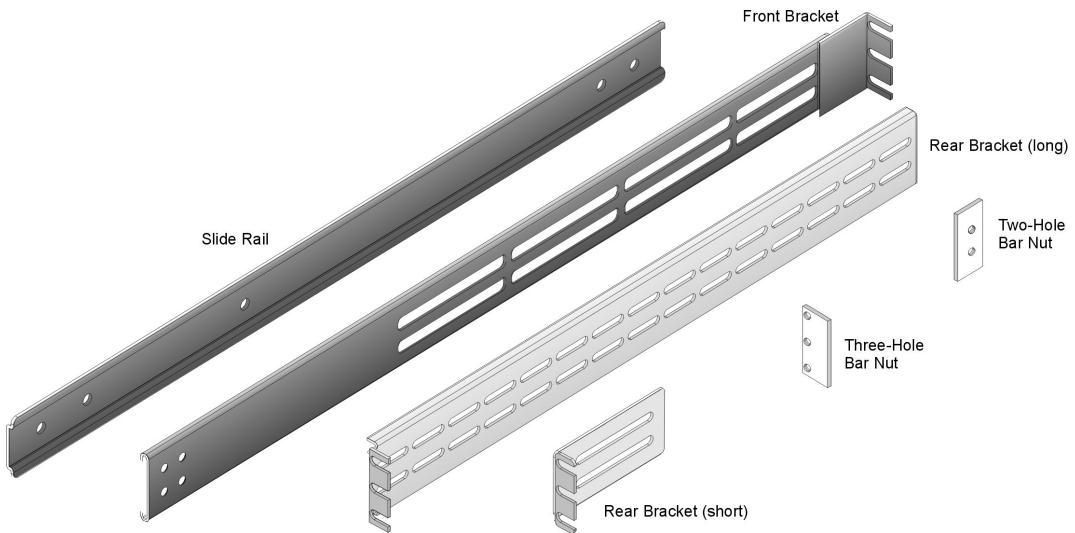


Figure 3 Mounting brackets, slide rails, and bar nuts

- Mounting screws:
 - Ten (10) pan-head Phillips screws (#10 x 1/2) with split lock and flat washers that secure the bracket assemblies to the vertical rack-mounting standards.
 - Ten (10) pan-head Phillips screws (M4 x 10 centimeter) with split lock and flat washers that secure the slide rails to the HAFM appliance.
 - Four (4) flat-head Phillips machine screws (#8 x 7/16) that secure the two-hole bar nuts, front brackets, and rear brackets.
 - Two (2) hexagonal-nut standoffs.

Figure 4 illustrates the standoff and mounting screws.

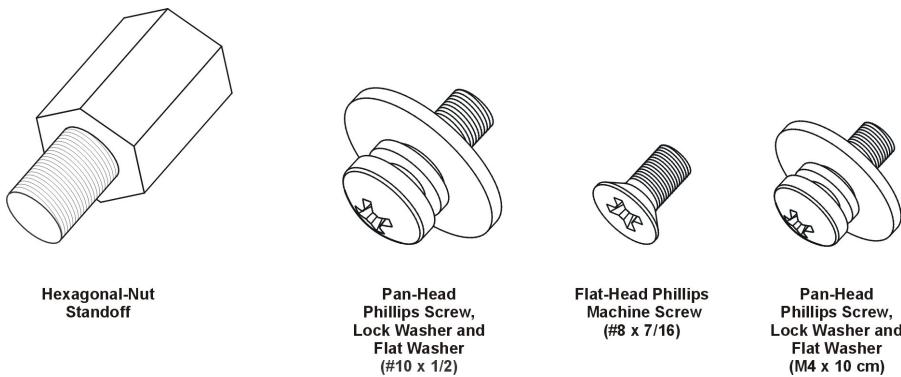


Figure 4 Hexagonal-Nut standoff and mounting screws

2 Installation

The HAFM appliance can be installed in a customer-supplied cabinet as long as the following requirements are met:

- The mounting standard-to-mounting standard cabinet depth must be from 18 inches to 32 inches to accommodate the rack mount kit. The HP rack mount kit must be used to install the HAFM appliance.
- It is the customer's responsibility to accurately calculate power requirements for the HAFM appliance and switches installed in the cabinet. HP is not responsible for power-related problems resulting from equipment installed in a customer-supplied cabinet.

Installing the HAFM appliance

Perform the following to install the HAFM appliance in the cabinet:

- Assemble and attach the front and rear brackets to the cabinet.
- Attach the left and right slide rails to the HAFM appliance.
- Install the HAFM appliance in the cabinet.
 - If you are not installing the HAFM appliance in a cabinet, go to [Connecting the HAFM appliance](#).

Attaching front and rear brackets

To assemble the front and rear brackets and attach the assemblies to the cabinet:

1. Consult with the customer and determine the cabinet installation position for the HAFM appliance. The HAFM appliance is 1.75 inches or one rack unit (1U) high.
2. The depth of the equipment cabinet determines if the long rear mounting bracket or short rear mounting bracket is used.
 - a. Using a tape measure (provided by installation personnel), measure and record the depth of the left side of the cabinet from the inside of the front vertical rack-mounting standard to the inside of the rear vertical rack-mounting standard.

- b. Measure and record the depth of the right side of the cabinet from the inside of the front vertical rack-mounting standard to the inside of the rear vertical rack-mounting standard.
3. Using a #2 Phillips screwdriver and eight (8) of the ten pan-head Phillips screws (#10 x 1/2) and, if you are installing the server in an HP 9000, 10000 or 11000 rack, eight (8) square alignment washers, attach four (4) three-hole bar nuts to the rack-mounting standards as follows:
 - a. Align each three-hole bar nut with the rack-mounting standard as shown in [Figure 5](#). Ensure each bar nut is mounted with the narrow side (drilled holes-to-edge side) facing the inside of the cabinet.

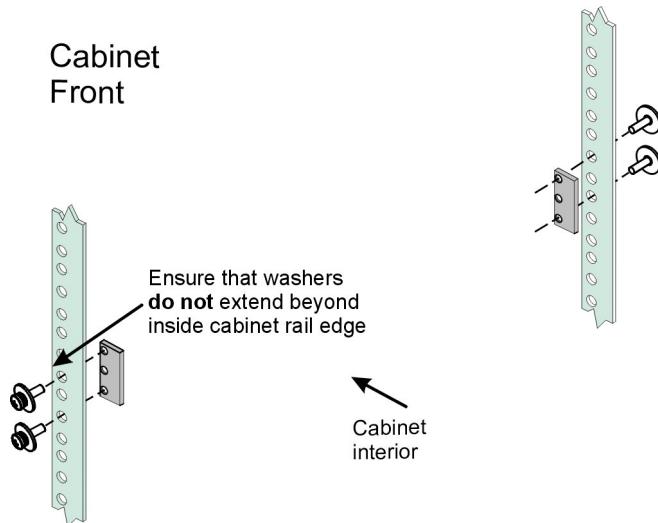


Figure 5 Three-hole bar nut alignment



NOTE:

Ensure the bar nut screw washers to do not overlap the inside edges of the rack-mounting standards and mounting brackets. Washer overlap may interfere with slide rail operation.

**NOTE:**

Figure 5 depicts the right-side rails of the cabinet. This figure does not depict the square alignment washers required if you are installing the bar nuts in an HP 9000, 10000, or 11000 series cabinet.

-
- b. Attach each bar nut using two screws (first and third holes) per nut.

**NOTE:**

If you are installing the bar nuts on an HP 9000, 10000, or 11000 series cabinet, add a square alignment washer to each screw, orienting the protruding alignment bumps with the rack-mounting standard.

-
- c. Partially tighten each screw, leaving enough space for the front and rear bracket flanges to insert between the rack-mounting standards and bar nuts.
4. Depending on the cabinet depth measured in step 2, attach each front bracket to a rear (short or long) bracket. If the cabinet depth is under 22 inches, use one front bracket and one short rear bracket. If the cabinet depth is over 22 inches, use one front bracket and one long rear bracket.
Be sure to choose the slots in the rear bracket which will result in the length of the combined front and rear bracket to match the cabinet depth measured in step 2.
- a. Using a #2 Phillips screwdriver and two (2) flat-head Phillips machine screws (#8 x 7/16) per bracket assembly, connect a front and rear bracket together with a two-hole bar nut as shown in [Figure 6](#).

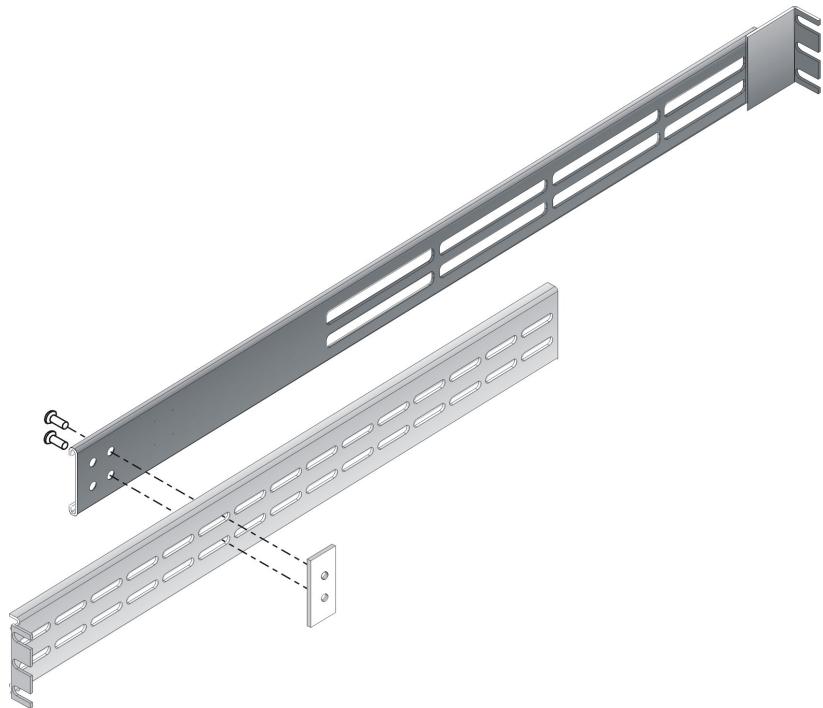


Figure 6 Front and rear bracket assembly

- b. Partially tighten each screw so that the assembly is held together but not completely secure. This allows for slight adjustment of the bracket length during installation in the cabinet.
 - c. Ensure the left and right bracket assembly lengths are equal to the cabinet depths recorded in step 2.
5. Attach each bracket assembly to the rack-mounting standards as shown in [Figure 7](#). If the HAFM appliance mounts through the front of the cabinet, ensure the front bracket portion of the assembly faces the cabinet front.

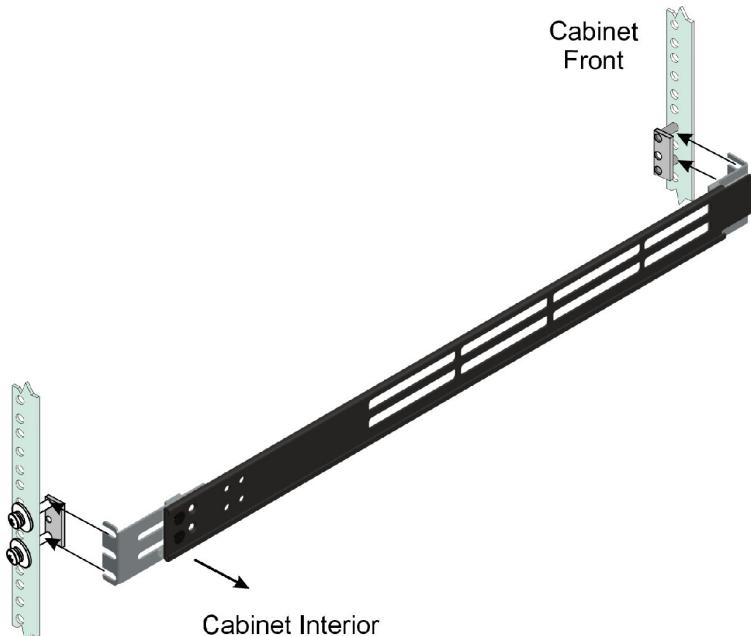


Figure 7 Bracket installation

- a. Slide the mounting bracket flanges between the bar nuts and rack-mounting standards. Adjust the overall length of each bracket assembly if required.
- b. To allow tolerance for HAFM appliance installation, tighten the three-hole bar nut screws (bracket-to-rack mounting standard) so the brackets are stable, but can be moved laterally.



NOTE:

Ensure the bar nut screw washers to do not overlap the inside edges of the rack-mounting standards and mounting brackets. Washer overlap may interfere with slide rail operation.

- c. Using a #2 Phillips screwdriver, securely tighten the bar nut screws (two per bracket assembly, four total) that connect the front and rear brackets.

Installing slide rails

To attach the left and right slide rails to the HAFM appliance:

1. As shown in [Figure 8](#), attach the left and right slide rails to the HAFM appliance with ten (10) pan-head Phillips screws (M4 x 10 cm). Use five (5) screws per side. Ensure the screws are securely tightened.

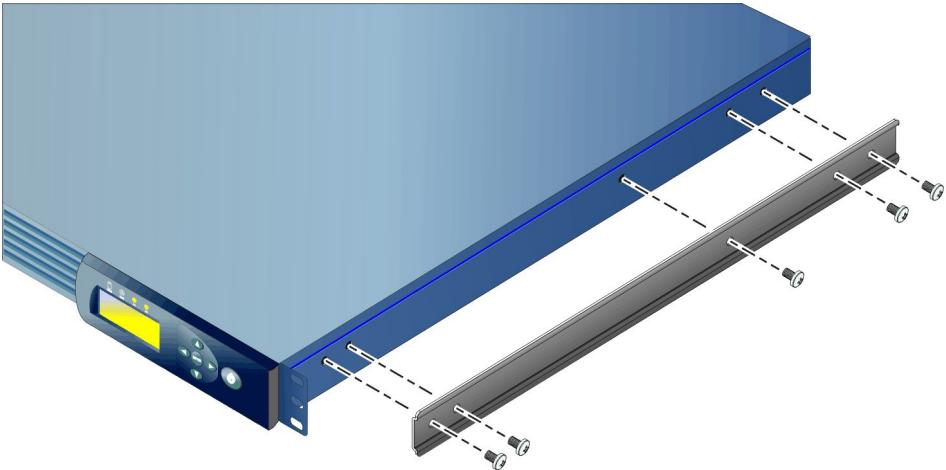


Figure 8 Slide rail installation

Installing the HAFM appliance

To install the HAFM appliance in the equipment cabinet:

1. If the front bracket portions of the bracket assemblies are installed at the front of the cabinet (typical installation), install the server through the cabinet front.
2. While fully supporting the HAFM appliance, slide the HAFM appliance and attached slide rails into the mounting brackets as shown in [Figure 9](#).

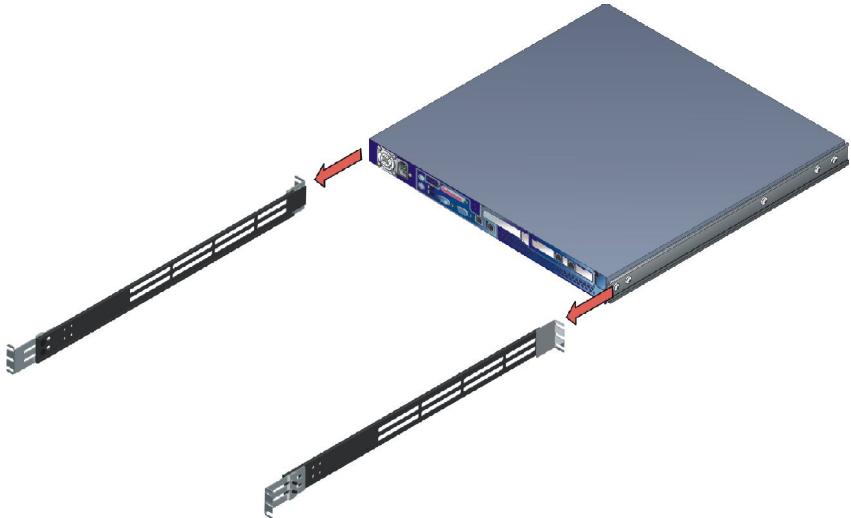


Figure 9 Appliance installation

3. Using a #2 Phillips screwdriver, securely tighten the bar nut screws (four per assembly, eight total) that connect the bracket assemblies to the rack-mounting standards.
4. Install one hexagonal-nut standoff per side (two total) to prevent the HAFM appliance from moving. At the front of the HAFM appliance as shown in [Figure 10](#), screw a standoff through the remaining (center) hole where each three-hole bar nut attaches to the rack-mounting standard. Secure each standoff with a 5/16 open-end wrench.



NOTE:

If you are installing the server in an HP 9000, 10000, or 11000 series rack you will also need to install a square alignment washer with each hexagonal-nut standoff.

5. As shown in [Figure 10](#), use the two (2) remaining pan-head Phillips screws (#10 x 1/2) to secure the HAFM appliance rack-mount ears (factory-installed on the HAFM appliance) to the hexagonal-nut standoffs. Secure the screws with a #2 Phillips screwdriver.

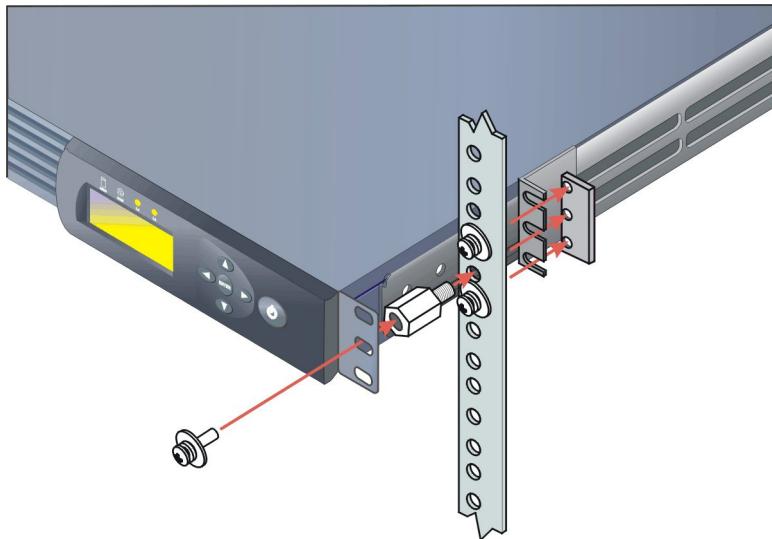


Figure 10 Install hexagonal-nut standoffs and securing screws



NOTE:

Figure 10 does not depict the square alignment washers required between the hexagonal-nut standoff and rack standard in an HP 9000, 10000, or 11000 series cabinet.

Connecting the HAFM appliance

You can connect the HAFM appliance to the single customer-supplied corporate Ethernet LAN, with or without an HP-supplied Ethernet hub. This allows remote sessions to the HAFM appliance from anywhere on the corporate LAN, provides access to manage the Directors and Edge Switches on this LAN, and allows access to applications such as HP OpenView Storage Area Manager.

Optionally, you can configure a separate dedicated private LAN between the HAFM appliance, and the Directors and Edge Switches that it manages.

**NOTE:**

The dedicated private LAN precludes the use of the HP OpenView Storage Area Manager application.

Before connecting the HAFM appliance, ensure that it is positioned in its final installation location on a table or desktop, or installed in an equipment cabinet.

**CAUTION:**

Do not connect the HAFM appliance to a network that could expose HAFM to a virus until Norton AntiVirus software is installed. Norton AntiVirus software is included with the HAFM appliance. HP recommends you connect a PC and the HAFM appliance on a private LAN to perform initial setup. After initial setup is completed, you can connect the HAFM appliance to your LAN.

1. Connect the HAFM appliance to the customer's corporate intranet (public LAN interface). To connect the HAFM appliance:
 - a. As shown in [Figure 11](#), connect one end of a customer-supplied Ethernet patch cable to the left RJ-45 adapter (LAN 1) at the rear of the HAFM appliance.
 - b. Connect the remaining end of the Ethernet cable to the corporate intranet as directed by the customer's network administrator.

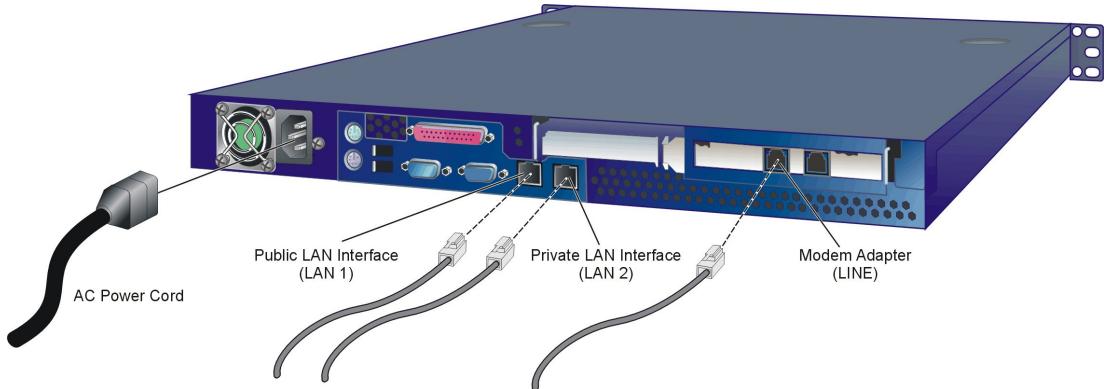


Figure 11 HAFM appliance connections

2. If required, connect the HAFM appliance to the customer-supplied Ethernet LAN segment or HP-supplied Ethernet hub (private LAN interface). To connect the HAFM appliance:
 - a. As shown in [Figure 11](#), connect one end of the Ethernet patch cable (supplied with the HAFM appliance) to the right RJ-45 adapter (LAN 2) at the rear of the HAFM appliance.
 - b. Connect the remaining end of the Ethernet cable to the LAN as follows:
 - If the HAFM appliance is installed on a customer-supplied LAN segment, connect the cable to the LAN as directed by the customer's network administrator.
 - If the HAFM appliance is installed on the HP-supplied Ethernet hub, connect the cable to any available hub port.
3. As shown in [Figure 11](#), connect the phone cord to the left RJ-11 adapter (LINE) at the rear of the HAFM appliance and to a facility telephone connection.

Powering on the HAFM appliance

To power on the HAFM appliance:

WARNING!

Use the supplied power cords. Ensure the facility power receptacle is the correct type, supplies the required voltage, and is properly grounded.

1. As shown in [Figure 11](#), connect the AC power cord to the HAFM appliance and to a facility power source or rack power strip that provides single-phase, 90 to 264 VAC current.

When the power cord is connected, the HAFM appliance powers on and performs power-on self-tests (POSTs). During POSTs:

- a. The green liquid crystal display (LCD) panel illuminates.
- b. The green hard disk drive (HDD) LED blinks momentarily, and processor speed and random-access memory information display momentarily at the LCD panel.
- c. After a few seconds, the LCD panel displays the following message pertaining to boot sequence selection ([Figure 12](#)):



Figure 12 LCD panel during boot sequence

- d. Ignore the message. After ten seconds, the HAFM appliance performs the boot sequence from the basic input/output system (BIOS). During the boot sequence, the HAFM appliance performs additional POSTs and displays the following operational information at the LCD panel:

- Host name.
- System date and time.
- LAN 1 and LAN 2 Internet Protocol (IP) addresses.
- Rotational speed status on multiple HAFM appliance fans.
- Central Processing Unit (CPU) Temp
- Hard disk capacity
- Virtual and physical memory capacity

After successful boot and POST completion, the LCD panel displays a Welcome!! message.

2. Press the left edge (PUSH label) of the LCD panel to disengage the panel and expose the CD-RW drive.
3. Insert a blank rewritable CD into the CD-RW drive and close the LCD panel.

3 Configuration

Configuring HAFM appliance password and network addresses

Verify the type of LAN installation with the customer's network administrator. If the HAFM appliance or equipment cabinet is installed on a dedicated LAN, network information does not require change. Change the default password for the appliance's LCD panel (if required by the customer), then go to [Configuring additional HAFM appliance information](#).

If the HAFM appliance is installed on a public LAN segment, change the default password for the HAFM appliance's LCD panel and the following transmission control protocol/internet protocol (TCP/IP) network information to conform to the customer's LAN addressing scheme:

- IP address.
- Subnet mask.



NOTE:

At some customer installations, TCP/IP addresses for the HAFM appliance may be allocated automatically using dynamic host configuration protocol (DHCP).

Configuring LCD panel password

To configure a new LCD panel password at the HAFM appliance:

1. At the LCD panel, press **ENTER**. The Welcome!! or operational information message changes to the following ([Figure 13](#)):

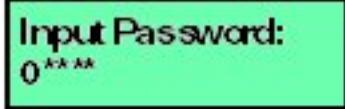


Figure 13 LCD panel (Input Password)

2. Using the **▲** button to increment a digit, the **▼** button to decrement a digit, the **◀** button to move the cursor left, and the **▶** button to move the cursor right, input the default password (9999), then press **ENTER**. The **LAN 1 Setting??** message is displayed at the LCD panel.
3. Press the **▼** button several times until the **Change Password?** option is displayed at the LCD panel, then press **ENTER**. The following message is displayed (Figure 14):



Figure 14 LCD panel (New Password)

4. Use the arrow keys as described in step 2 to input a new 4-digit numeric password, then press **ENTER**. The following message is displayed (Figure 15):



Figure 15 LCD panel (Save Change)

5. Press **ENTER**. A **Wait a moment!!** message is displayed at the LCD panel, the LCD panel returns to the **LAN 1 Setting??** message, and the password changes.
6. Press the up and down arrow keys until **Return??** is displayed, then press **ENTER**. The LCD panel returns to scrolling mode, which continually displays HAFM appliance operational information.

Configuring public LAN addresses



NOTE:

Before starting this procedure, ensure that the LAN 1 interface is physically connected to the LAN. An LCD display of 0.0.0.0 indicates a physical LAN connection is not present.

You can configure the public LAN connection (LAN 1) using one of the following methods:

- Use Dynamic Host Control Protocol (DHCP) to assign the HAFM appliance IP address, subnet mask, and default gateway IP address. You can either auto-detect or manually select the DNS server IP address.
- Manually enter the HAFM appliance IP address, subnet mask, default gateway IP address, and DNS server IP address.

Configuring public LAN addresses using DHCP

To configure TCP/IP network information for the private LAN connection (LAN 1):



NOTE:

Before starting this procedure, ensure that the LAN 1 interface is physically connected to the LAN. An LCD display of 0.0.0.0 indicates a physical LAN connection is not present.

1. At the LCD panel, press **ENTER**. The Welcome!! or operational information message changes to the following (Figure 16):

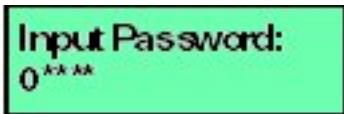


Figure 16 LCD panel (Input Password)

2. Using the **▲** button to increment a digit, the **▼** button to decrement a digit, the **◀** button to move the cursor left, and the **▶** button to move the cursor right, input the default password (9999), then press **ENTER**. The LAN 1 Setting?? message is displayed at the LCD panel.
3. Press **ENTER** and the following message is displayed (Figure 17) to allow the selection of DHCP.



Figure 17 LCD panel (DHCP selection)

4. Use the arrow keys as described in step 2 and select **YES** to use DHCP, then press **ENTER**. The following message is displayed (Figure 18):



Figure 18 LCD panel (Auto Get DNS)

5. Do one of the following:
 - Use the up and down arrow keys as described in step 2 to select **YES**, then press **ENTER**. The DNS address is auto-detected and recorded. Proceed to step 7.
 - Select **NO** by pressing **ENTER**. The following message is displayed (Figure 19).

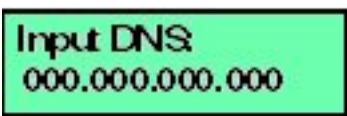


Figure 19 LCD panel (Input DNS)

6. Use the arrow keys as described in step 2 to enter the IP address for the DNS server, then press **ENTER**. The following message is displayed (Figure 20):

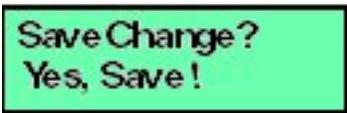


Figure 20 LCD panel (Save Change)

7. Use the up and down arrow keys as described in step 2 to select **YES**, then press **ENTER**. If you saved the changes, a *Wait a moment!!* message is displayed at the LCD panel and the LCD panel returns to the *LAN 1 Setting??* message.
8. Press the up and down arrow keys until *Return??* is displayed, then press **ENTER**. The LCD panel returns to scrolling mode, which continually displays HAFM appliance operational information.
9. Record the private LAN IP address and subnet mask for reference if the HAFM appliance hard drive fails and must be restored.

Manually configuring public LAN addresses

To configure TCP/IP network information for the private LAN connection (LAN 1):

1. At the LCD panel, press **ENTER**. The *Welcome!!* or operational information message changes to the following (Figure 21):

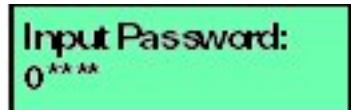


Figure 21 LCD panel (Input Password)

2. Using the **▲** button to increment a digit, the **▼** button to decrement a digit, the **◀** button to move the cursor left, and the **▶** button to move the cursor right, input the default password (9999), then press **ENTER**. The LAN 1 Setting?? message is displayed at the LCD panel.
3. Press **ENTER** and the following message is displayed (Figure 22) with the current LAN1 IP address. (The default is 192.168.0.1).

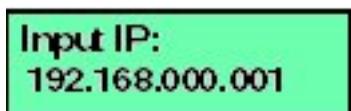


Figure 22 LCD panel (LAN 1 IP address)

4. Use the arrow keys as described in step 2 to input a new IP address, then press **ENTER**. The following message is displayed (Figure 23) with the current subnet mask. (The default subnet mask is 255.0.0.0).



Figure 23 LCD panel (Input Netmask)

5. Use the arrow keys as described in step 2 to input a new subnet mask, then press **ENTER**. The following message is displayed (Figure 24) with an IP address whose first three octets (each three decimal digits) are the same as the IP address entered in step 5, and the last octet is set to decimal 254 (or the default gateway IP address of 0.0.0.0 is displayed).

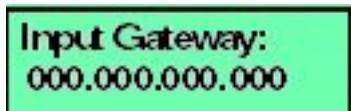


Figure 24 LCD panel (Input Gateway)

6. Use the arrow keys as described in step 2 to input a new gateway IP address, then press **ENTER**. The following message is displayed (Figure 25) with the default DNS server IP address of 0.0.0.0.



Figure 25 LCD panel (Input DNS)

7. Use the arrow keys as described in step 2 to enter the IP address for the DNS server, then press **ENTER**. The following message is displayed (Figure 26):

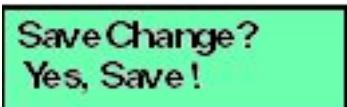


Figure 26 LCD panel (Save Change)

8. Use the up and down arrow keys as described in step 2 to select **YES**, then press **ENTER**. If you saved the changes, a **Wait a moment!!** message is displayed at the LCD panel and the LCD panel returns to the **LAN 1 Setting??** message.
9. Press the up and down arrow keys until **Return??** is displayed, then press **ENTER**. The LCD panel returns to scrolling mode, which continually displays HAFM appliance operational information.
10. Record the private LAN IP address and subnet mask for reference if the HAFM appliance hard drive fails and must be restored.

Configuring private LAN addresses



NOTE:

Before starting this procedure, ensure that the LAN 2 interface is physically connected to the LAN. An LCD display of 0.0.0.0 indicates a physical LAN connection is not present.

You can configure the private LAN connection (LAN 2) using one of the following methods:

- Use Dynamic Host Control Protocol (DHCP) to assign the HAFM appliance IP address, subnet mask, and default gateway IP address. You can either auto-detect or manually select the DNS server IP address.
- Manually enter the HAFM appliance IP address, subnet mask, default gateway IP address, and DNS server IP address.

Manually configuring private LAN addresses using DHCP

To configure TCP/IP network information for the private LAN connection (LAN 2):

- At the LCD panel, press **ENTER**. The Welcome!! or operational information message changes to the following ([Figure 27](#)):



Figure 27 LCD panel (Input Password)

- Using the **▲** button to increment a digit, the **▼** button to decrement a digit, the **◀** button to move the cursor left, and the **▶** button to move the cursor right, input the default password (9999), then press **ENTER**. The LAN 1 Setting?? message is displayed at the LCD panel.
- Press the **▼** button until the LAN 2 Setting?? message is displayed at the LCD panel.
- Press **ENTER** and the following message is displayed ([Figure 28](#)) to allow the selection of DHCP.



Figure 28 LCD panel (Use DHCP)

- Use the arrow keys as described in step 2 and select **YES** to use DHCP, then press **ENTER**. The following message is displayed ([Figure 29](#)):



Figure 29 LCD panel (Auto Get DNS)

- Do one of the following:
 - Use the up and down arrow keys as described in step 2 to select **YES**, then press **ENTER**. The DNS address is auto-detected and recorded. Proceed to step 8.
 - Select **NO** by pressing **ENTER**. The following message is displayed ([Figure 30](#)).



Figure 30 LCD panel (Input DNS)

7. Use the arrow keys as described in step 2 to enter the IP address for the DNS server, then press **ENTER**. The following message is displayed (Figure 31):

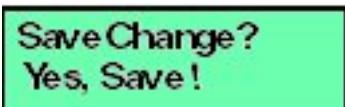


Figure 31 LCD panel (Save Change)

8. Use the up and down arrow keys as described in step 2 to select **YES**, then press **ENTER**. If you saved the changes, a **Wait a moment!!** message is displayed at the LCD panel and the LCD panel returns to the **LAN 1 Setting??** message.
9. Press the up and down arrow keys until **Return??** is displayed, then press **ENTER**. The LCD panel returns to scrolling mode, which continually displays HAFM appliance operational information.
10. Record the private LAN IP address and subnet mask for reference if the HAFM appliance hard drive fails and must be restored.

Manually configuring private LAN addresses

To configure TCP/IP network information for the private LAN connection (LAN 2):

1. At the LCD panel, press **ENTER**. The **Welcome!!** or operational information message changes to the following (Figure 32):



Figure 32 LCD panel (Input Password)

2. Using the **▲** button to increment a digit, the **▼** button to decrement a digit, the **◀** button to move the cursor left, and the **▶** button to move the cursor right, input the default password (9999), then press **ENTER**. The **LAN 1 Setting??** message is displayed at the LCD panel.
3. Press the **▼** button until the **LAN 2 Setting??** message is displayed at the LCD panel.

4. Press **ENTER** and the following message is displayed (Figure 33) with the current LAN2 IP address. (The default is 10.1.1.1).



Figure 33 LCD panel (Input LAN 2 IP address)

5. Use the arrow keys as described in step 2 to input a new IP address, then press **ENTER**. The following message is displayed (Figure 34) with the default subnet mask of 255.0.0.0.



Figure 34 LCD panel (Input Netmask)

6. Use the arrow keys as described in step 2 to input a new subnet mask, then press **ENTER**. The following message is displayed (Figure 35) with an IP address whose first three octets (each three decimal digits) are the same as the IP address entered in step 5, and the last octet is set to decimal 254 (or the default gateway IP address of 0.0.0.0 is displayed).



Figure 35 LCD panel (Input Gateway)

7. Use the arrow keys as described in step 2 to input a new gateway IP address, then press **ENTER**. The following message is displayed (Figure 36) with the default DNS server IP address of 0.0.0.0.



Figure 36 LCD panel (Input DNS)

8. Use the arrow keys as described in step 2 to enter the IP address for the DNS server, then press **ENTER**. The following message is displayed (Figure 37):

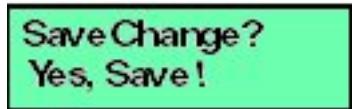


Figure 37 LCD panel (Save Change)

9. Use the up and down arrow keys as described in step 2 to select **YES**, then press **ENTER**. If you saved the changes, a *Wait a moment!!* message is displayed at the LCD panel and the LCD panel returns to the *LAN 1 Setting??* message.
10. Press the up and down arrow keys until *Return??* is displayed, then press **ENTER**. The LCD panel returns to scrolling mode, which continually displays HAFM appliance operational information.
11. Record the private LAN IP address and subnet mask for reference if the HAFM appliance hard drive fails and must be restored.

Configuring additional HAFM appliance information

Configure a computer name and workgroup name for the HAFM appliance. If required, change the HAFM appliance's gateway addresses and domain name system (DNS) HAFM appliance IP addresses to conform to the customer's LAN addressing scheme. The gateway addresses are the addresses of the local router for the corporate intranet. Configure these parameters from the HAFM appliance's Windows 2000 operating system, using a LAN- attached PC with standard web browser.

Accessing the HAFM appliance desktop

To login and access the HAFM appliance desktop:

1. Ensure the HAFM appliance and a browser-capable PC are connected through an Ethernet LAN segment. At the PC, launch the browser application (Netscape Navigator or Internet Explorer).
2. At the PC browser, enter the IP address of the HAFM appliance for the LAN to which the PC is connected (LAN 1 or LAN 2), followed by :5800, as the Internet uniform resource locator (URL). Enter the URL in the following format:
`http://xxx.xxx.xxx.xxx:5800`

Where xxx.xxx.xxx.xxx is the default IP address or the IP address configured while performing [Configuring appliance password and network addresses](#). The VNC Authentication screen is displayed (Figure 38).



Figure 38 VNC Authentication screen

3. Type the default TightVNC viewer password and click **OK**. The Welcome to Windows dialog box is displayed (Figure 39). The default TightVNC password is password.

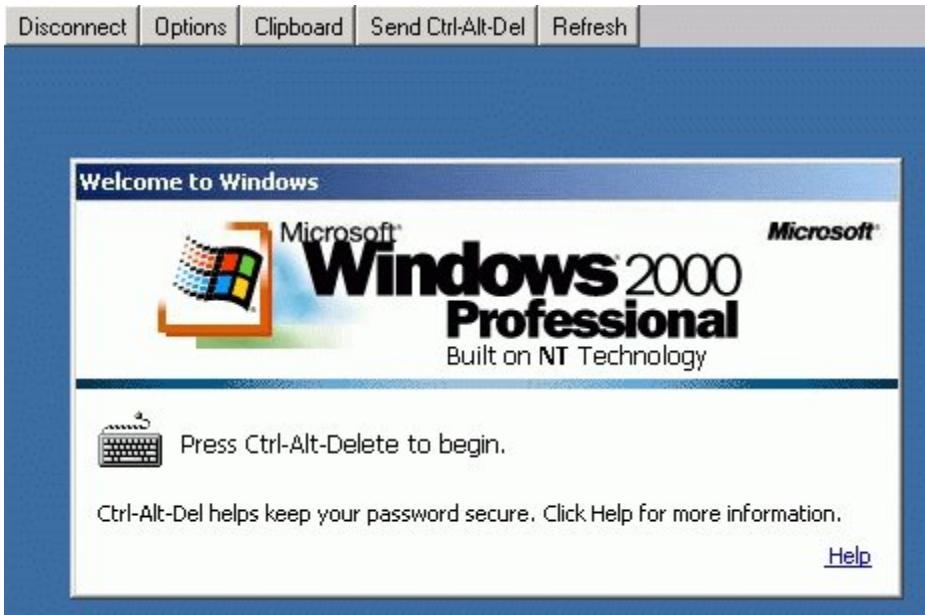


Figure 39 Welcome to Windows dialog box

4. Click the **Send Ctrl-Alt-Del** button at the top of the window to log on to the HAFM appliance desktop. The Log On to Windows dialog box is displayed (Figure 40).

**NOTE:**

Do not simultaneously press the **Ctrl**, **Alt**, and **Delete** keys. This action logs the user on to the browser-capable PC, not the HAFM appliance.



Figure 40 Log On to Windows dialog box

5. Type the default Windows 2000 user name and password and click **OK**. The HAFM appliance's Windows 2000 desktop opens.

**NOTE:**

The default Windows 2000 user name is Administrator and the default password is password. Both are case-sensitive.

Installing anti-virus software

A Norton AntiVirus software CD-ROM is included in the HAFM appliance kit contents to provide virus protection for the HAFM appliance.

To install the anti-virus software:

1. Press the left edge (PUSH label) at the front of the HAFM appliance of the LCD panel to disengage the panel and expose the CD-RW drive.
2. Insert Norton AntiVirus software CD-ROM into the CD-RW drive and close the LCD panel.
3. Follow the instructions provided on-screen to complete the installation and activate the anti-virus application.



NOTE:

Once you have installed the software, you should obtain regular updates to the application and virus data files from the software vendor. See the vendor documentation and help files for more information.

Configuring HAFM appliance names

To configure the HAFM appliance name and workgroup name:

1. Click **Start > Settings > Control Panel** at the Windows 2000 desktop. The Control Panel window is displayed.
2. Double-click the System icon. The System Properties dialog box is displayed with the General tab selected as the default.
3. Click the Network Identification tab. The System Properties dialog box is displayed with the Network Identification tab open ([Figure 41](#)).

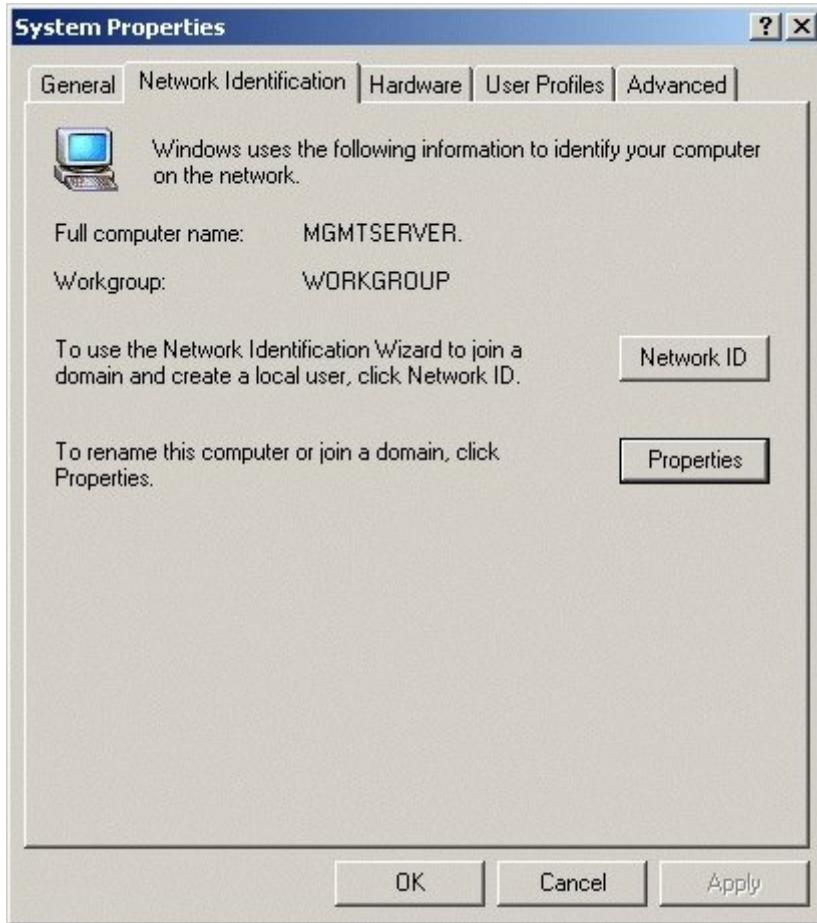


Figure 41 System Properties dialog box (Network Identification tab)

4. Click **Properties**. The Identification Changes dialog box is displayed (Figure 42).

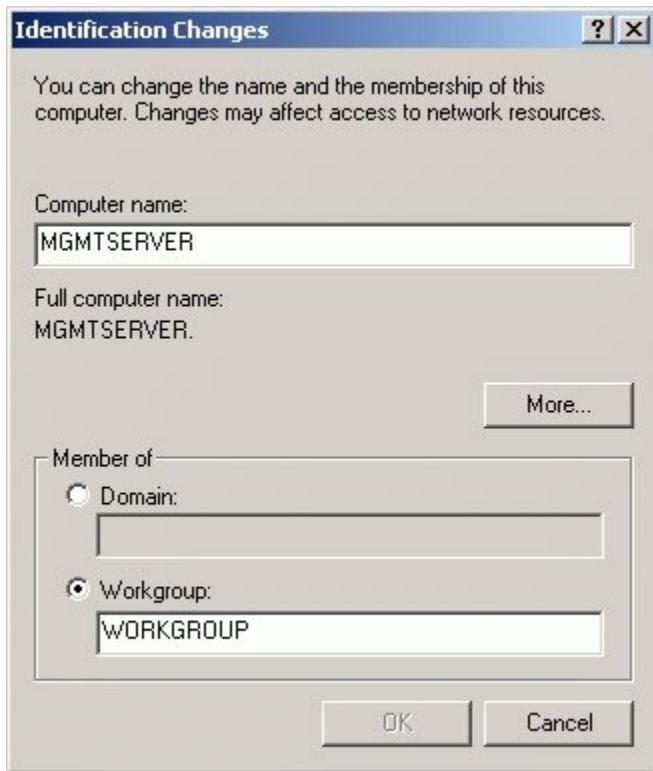


Figure 42 Identification Changes dialog box

5. Change the name to MGMTSERVER in the **Computer Name** field.
6. Change the name to WORKGROUP in the **Workgroup** field, and then click **OK**. The dialog box closes.
7. Record the computer and workgroup names for reference if the HAFM appliance hard drive fails and must be restored.
8. Click **OK** at the System Properties dialog box to close the dialog box and return to the Control Panel window.
9. Click **(X)** at the upper right corner of the Control Panel window to return to the Windows 2000 desktop.

Configuring gateway and DNS server addresses

To configure gateway addresses and DNS server IP addresses for the private LAN connection (LAN 2) and public LAN connection (LAN 1):

1. Click **Start > Settings > Control Panel** at the Windows 2000 desktop. The Control Panel window is displayed.

- Double-click the Network and Dial-up Connections icon. The Network and Dial-up Connections window is displayed.
- To configure addresses for the private LAN connection (LAN 2), double-click the Local Area Connection 2 icon. The Local Area Connection 2 Status dialog box is displayed ([Figure 43](#)).

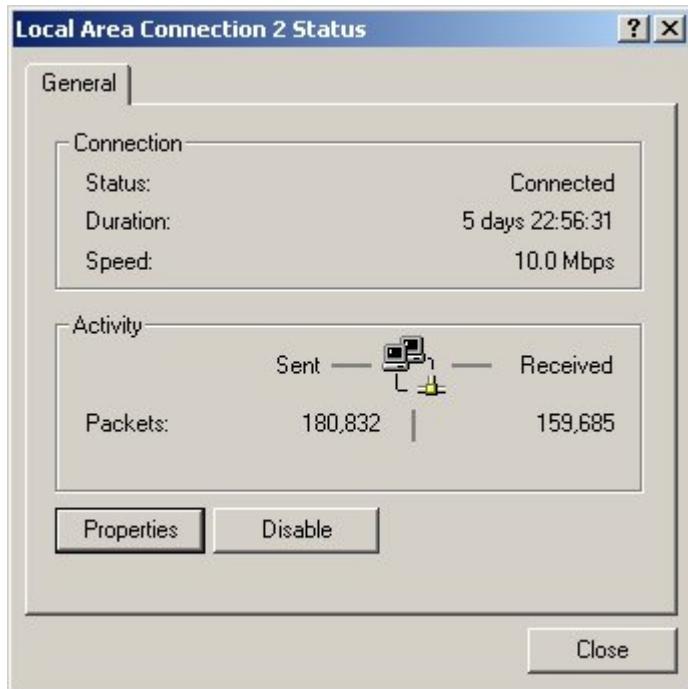


Figure 43 Local Area Connection 2 Status dialog box

- Click **Properties**. The Local Area Connection 2 Properties dialog box is displayed ([Figure 44](#)).

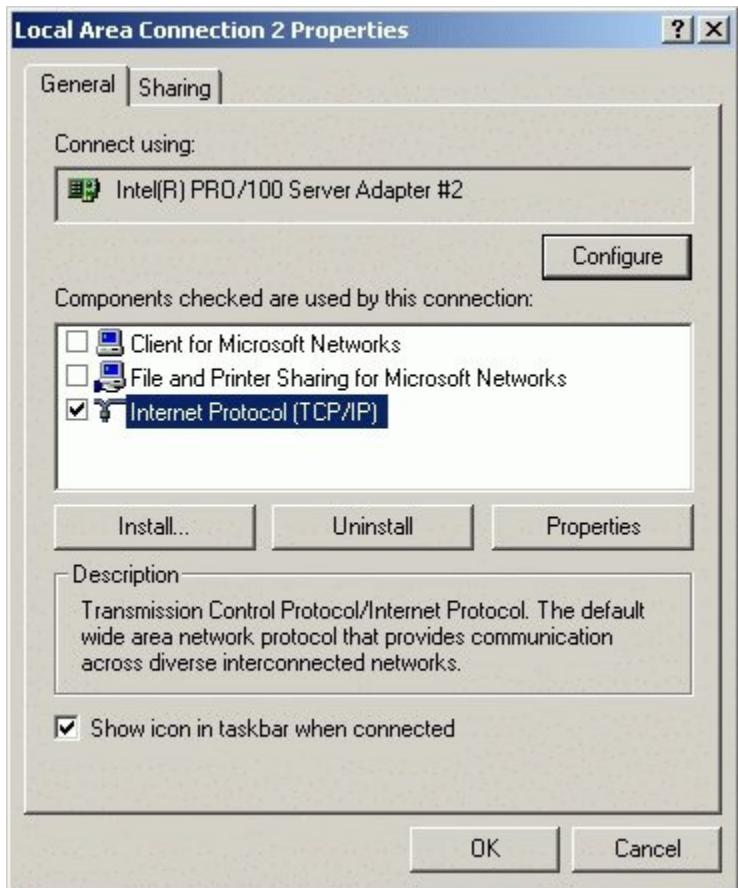


Figure 44 Local Area Connection 2 Properties dialog box

5. Double-click the Internet Protocol (TCP/IP) entry. The Internet Protocol (TCP/IP) Properties dialog box is displayed (Figure 45).

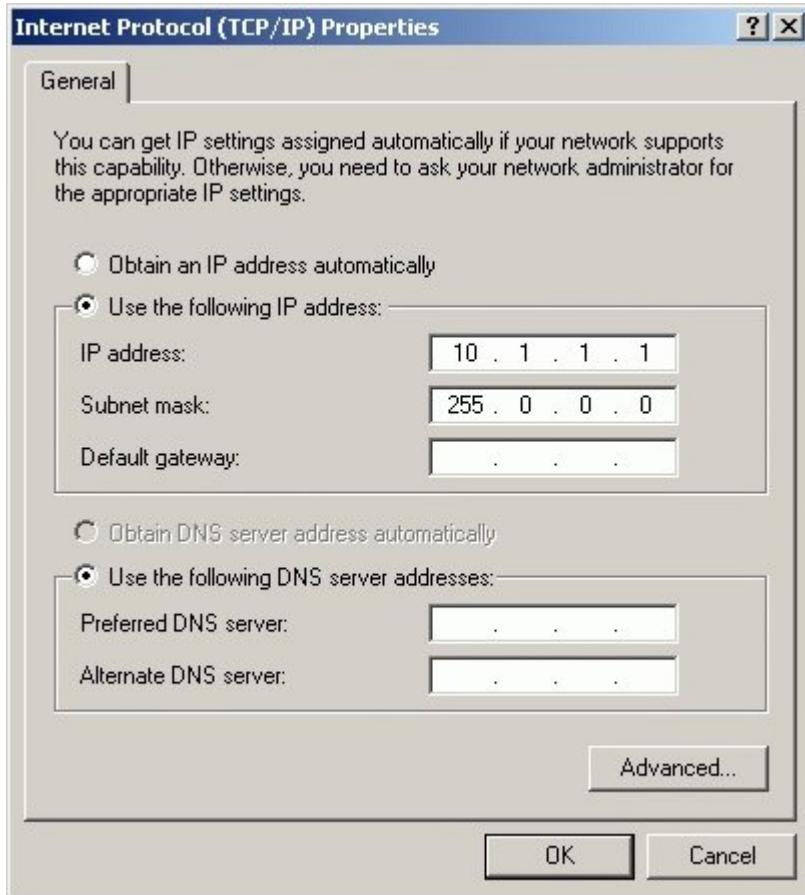


Figure 45 Internet Protocol (TCP/IP) Properties dialog box

6. The **Use the following IP address** radio button is enabled and the **IP address** and **Subnet mask** fields display network information configured while performing [Configuring appliance password and network addresses](#).
7. Type the gateway address obtained from the customer's network administrator in the **Default gateway** field.
8. Select (enable) the **Use the following DNS server addresses** option.
9. Type the DNS server IP address obtained from the customer's network administrator in the **Preferred DNS server** field, and then click **OK** to apply the changes and close the dialog box.
10. Click **OK** to close the Local Area Connection 2 Properties dialog box.

11. Record the changed gateway and DNS server addresses for reference if the HAFM appliance hard drive fails and must be restored.
12. To configure addresses for the public LAN connection (LAN 1), double-click the Local Area Connection 1 icon and repeat step 4 through step 10 of this procedure.
13. Click close (X) at the upper right corner of the Network and Dial-up Connections window to return to the Windows 2000 desktop.
14. Reboot the HAFM appliance:
 - a. Click **Start > Shut Down** at the Windows 2000 desktop. The Shut Down Windows dialog box is displayed.
 - b. Select the **Restart** option the Shut Down Windows dialog box, and then click **OK** to reboot the HAFM appliance.
 - c. To log into HAFM, see [Figure 46](#).

Logging into HAFM

You must log into a HAFM appliance to monitor a SAN. Perform the following:



NOTE:

You must have an established login and password account on the appliance in order to log in.

1. The HAFM Log In dialog box displays automatically when you open the application (see [Figure 46](#))

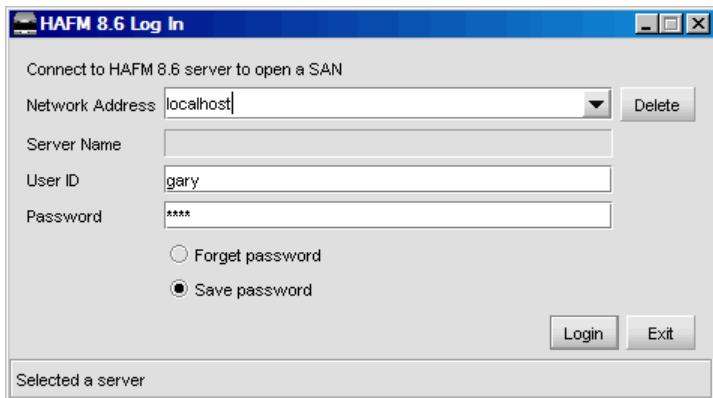


Figure 46 HAFM 8.6 Log In dialog box

The Server's address displays in the **Network Address** field.

2. You may specify a new address by typing it in the field, or selecting one from the drop-down list.



NOTE:

Localhost is the default value. The application automatically determines the local IP address and uses that value as the local host address.

3. The Server's name displays in the **Server Name** field.
4. Enter your user ID and password.
5. Select whether you want the application to remember your password the next time you log in.
6. Click **Login**.

Configuring Windows 2000 users

Configure password access for all authorized Windows 2000 users. It is also recommended to change the default administrator password. To configure users:

1. Click **Start > Settings > Control Panel** at the Windows 2000 desktop. The Control Panel window is displayed.

- Double-click the Users and Passwords icon. The Users and Passwords dialog box is displayed (Figure 47).



Figure 47 Users and Passwords dialog box

- The Guest user name is a built-in account in the Windows 2000 operating system and cannot be deleted. The *srvacc* account is for field service users and must not be modified or deleted.

Changing default administrator password

To change the administrator password from the default (*password*) to a customer-specified password:

- Click the **Send Ctrl-Alt-Del** button at the top of the window surrounding the Users and Passwords dialog box. The Windows Security dialog box is displayed (Figure 48).

**NOTE:**

Do not simultaneously press the **Ctrl**, **Alt**, and **Delete** keys. This action controls the browser-capable PC, not the HAFM appliance.



Figure 48 Windows Security dialog box

2. Click **Change Password**. The Change Password dialog box is displayed (Figure 49).



Figure 49 Change Password dialog box

3. Type the old password in the **Old Password** field. Type the new password in the **New Password** and **Confirm New Password** fields.



NOTE:

The **New Password** and **Confirm New Password** fields are case-sensitive.

4. Click **OK**. The default administrator password changes and the Change Password dialog box closes.
5. Click **Cancel** at the Windows Security dialog box to return to the Users and Passwords dialog box.

Adding a new user

To set up a new Windows 2000 user:

1. Click **Add** at the Users and Passwords dialog box. The first window of the Add New User wizard is displayed ([Figure 50](#)).



Figure 50 Add New User Wizard (first window)

2. Type the appropriate new user information in the **User name**, **Full name**, and **Description** fields, then click **Next**. The second window of the Add New User wizard is displayed (Figure 51).



Figure 51 Add New User Wizard (second window)

3. Type the new user's password in the **Password** and **Confirm password** fields, then click **Next**. The third window of the Add New User wizard is displayed ([Figure 52](#)).



Figure 52 Add New User Wizard (third window)

4. Based on the level of access to be granted, select the **Standard user**, **Restricted user**, or **Other** radio button. If the **Other** radio button is selected, choose the type of access from the adjacent list box.
5. Click **Finish**. The new user information is added and the wizard closes. Record the user information for reference if the HAFM appliance hard drive fails and must be restored.
6. If no other users are to be added, click **OK** to close the Users and Passwords dialog box.
7. Click close (X) at the upper right corner of the Control Panel window to return to the Windows 2000 desktop.

Setting HAFM appliance date and time

Audit and event logs are time-stamped with the HAFM appliance date and time. All managed product system clocks are synchronized with the HAFM appliance date and time by default. To set the HAFM appliance date and time:

1. Click **Start > Settings > Control Panel** at the Windows 2000 desktop. The Control Panel window is displayed.

- Double-click the Date/Time icon. The Date/Time Properties dialog box is displayed with the Date & Time page open (Figure 53).

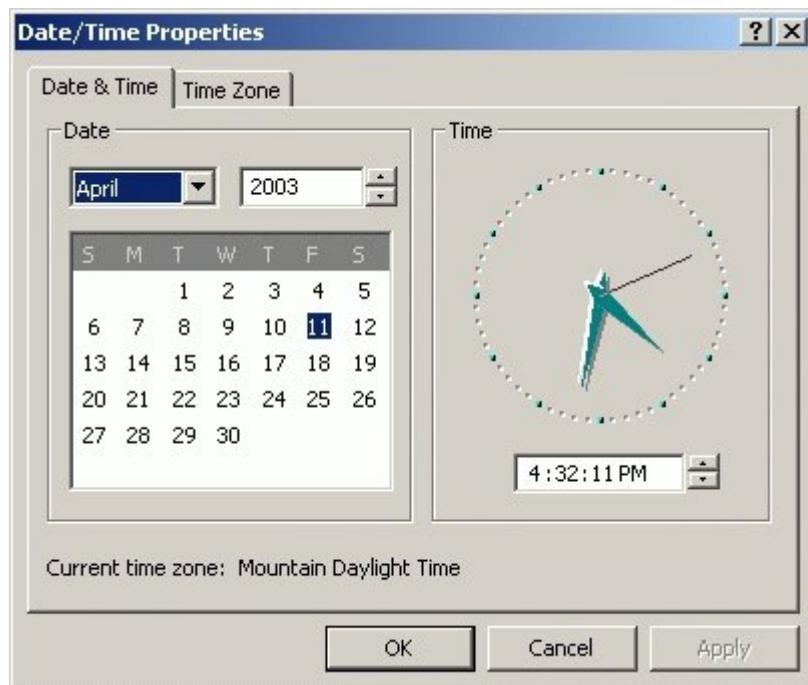


Figure 53 Date/Time Properties dialog box (Date & Time tab)



NOTE:

The Time Zone field must be set before the Date & Time field.

- Click the Time Zone tab. The Date/Time Properties dialog box is displayed with the Time Zone page open (Figure 54).



Figure 54 Date/Time Properties dialog box (Time Zone tab)

4. To change the time zone:
 - a. Select the appropriate time zone from the drop-down list at the top of the dialog box.
 - b. If instructed by the customer's system administrator, select the **Automatically adjust clock for daylight saving changes** check box.
 - c. Click **Apply**. Record time zone and daylight savings information for reference if the HAFM appliance hard drive fails and must be restored.
5. Click the Date & Time tab. The Date/Time Properties dialog box is displayed with the Date & Time page open.
6. To change the date and time:
 - a. Select the month from the drop-down list.
 - b. Click the up or down arrow adjacent to the year field and select the desired year.
 - c. Click the day on the calendar to select the desired date.

- d. Click in the time field and enter the desired time, then click the adjacent up or down arrow and select **AM** or **PM**.
 - e. Click **Apply**. Record date and time information for reference if the HAFM appliance hard drive fails and must be restored.
7. Click **OK** to close the Date/Time Properties dialog box.
 8. Click close (**X**) at the upper right corner of the Control Panel window to return to the Windows 2000 desktop.

Configuring and enabling event notification features

The HAFM appliance provides the following event notification features:

- Call home via dial-out — This feature provides automatic dial-out through the modem to a service support facility to report Director or Edge Switch problems. This functionality is provided in the shipped software.
- Proactive Services call-home via LAN — This feature reports events via the LAN to a SANworks Management appliance or other server running the HP Proactive Services software.

HP Proactive Services software is offered at no additional charge for subsystems covered under an on-site warranty or on-site storage hardware support contract. To order Proactive Services software, contact your Hewlett-Packard customer service representative.



NOTE:

You can choose only one of the two call home options: call home via dial-out or call home via LAN. You can use either feature, but not both.

The HAFM appliance is shipped with the HAFM application installed and the call home via dial-out feature selected by default. If you prefer to use the Proactive Services call home via LAN feature, you must:

- Order the Proactive Services software.
 - Remove the HAFM application.
 - Reinstall the HAFM application.
 - Select the call home via LAN option during the HAFM application installation.
-

- E-Mail event notification — This feature enables you to configure e-mail addresses to which event notifications are sent for the HAFM appliance, Directors and Edge Switches.

Configuring the call home via dial-out feature

The HAFM appliance has a call home feature that provides automatic dial-out through the modem to a service support facility to report Director, Edge Switch, or HAFM appliance problems. The problem is logged into the support facility's tracking system for resolution.

Obtaining required information

You must contact the nearest HP technical support location to obtain some required information prior to beginning this procedure.



NOTE:

Before contacting technical support, please read through this section to familiarize yourself with the steps and information required.

Telephone numbers for worldwide technical support are listed on the HP web site:<http://www.hp.com/country/us/eng/support.html>

Required information includes:

- Call home phone number
- Workflow Manager (WFM) site ID
- Super Region code

This information is required for the HAFM appliance to place a phone call to the service support facility.

You will be required to provide the following information to obtain this information:

- Company name
- Contact names for primary hours and alternate hours
- Phone numbers for contacts
- Company address

The HAFM appliance has a call home feature that provides automatic dial-out through the internal modem to a service support facility to report switch problems. The problem is logged into the support facility's tracking system for resolution.

Configuring call home feature

The HAFM appliance has a call home feature that provides automatic dial-out through the internal modem to a service support facility to report switch problems. The problem is logged into the support facility's tracking system for resolution. To configure the call home feature:

1. There are two jacks on the HAFM appliance's internal modem: one for the call home connection (LINE), and the other for a telephone (PHONE). Ensure a telephone cable is routed and connected to the LINE jack at the rear of the HAFM appliance (connected while performing [Installing the appliance](#)).
2. At the Windows 2000 desktop, double-click the Call Home Configuration icon. The Call Home Configuration dialog box is displayed ([Figure 55](#)).



Figure 55 Call Home Configuration dialog box

3. At the **Call Center Phone Number** field, enter the telephone number for the HP Solution Center. Include necessary information, such as the country code, area code, or any prefix required to access a telephone line outside the facility.
4. At the **Local Phone Number** field, enter the telephone number for access to the local appliance. Include necessary information such as the country code or area code.
5. Click **OK** to save the configured telephone numbers and close the dialog box.

Enabling call home via dial-out

The HAFM appliance is now configured to automatically dial-out through the modem to a service support facility to report Director, Edge Switch, or HAFM appliance problems.

You must now enable the call home feature on the HAFM appliance itself, as well as each Director and Edge Switch, through the HAFM application on the HAFM appliance.

Also, identification information must be entered for each Director and Edge Switch to complete the call home via modem configuration.

To enable the call home feature on the HAFM appliance, Directors and Edge Switches:

1. Log in to HAFM (see [Logging into HAFM](#). The HAFM main window is displayed ([Figure 56](#)).

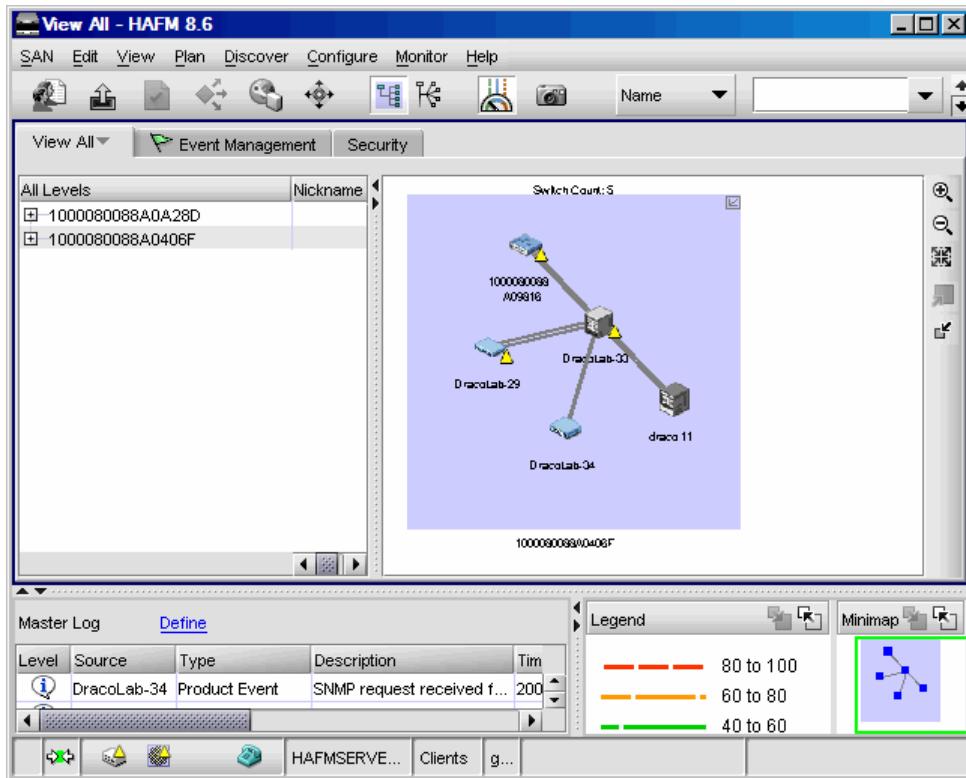


Figure 56 HAFM main window

2. Click **Monitor > Event Notification > Call Home....** The Call Home Event Notification Setup dialog box is displayed ([Figure 57](#)).



Figure 57 Call Home Event Notification Setup dialog box

3. Place a check mark in the **Enable Call Home Event Notification** option. This enables the call home function for the HAFM appliance, as well as for all Directors and Edge Switches that have also been enabled for call home notification.

Configuring identification information for directors and edge switches

This procedure describes how to configure identification information for each Director and Edge Switch that is managed by the HAFM appliance.

Repeat this procedure for each Director or Edge Switch you want to configure for call home event notification



NOTE:

In order for Directors and Edge Switches to be managed by the HAFM appliance, you must first add them using the HAFM application. Refer to the *HP StorageWorks HA-Fabric Manager User Guide* for more information.

Complete the following steps for each Director or Edge Switch managed using HAFM:

1. From the HAFM main window, double-click on the icon for the device. The Hardware View for the device is displayed.
2. On the menu bar, click **Configure > Identification**. The Configure Identification dialog box is displayed (Figure 58).

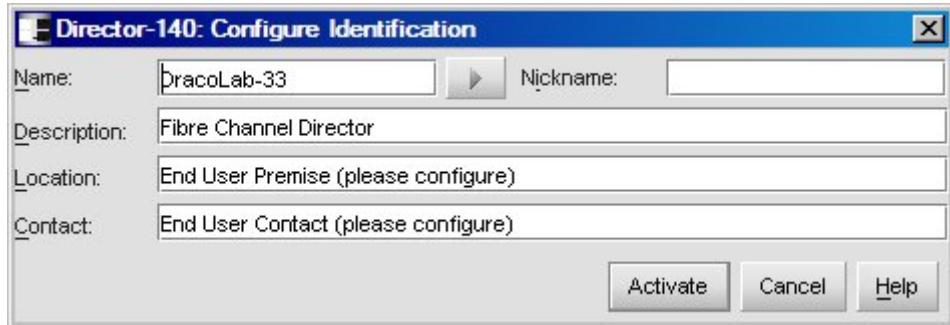


Figure 58 Configure Identification dialog box

3. Replace the default text with the following entries:
 - Name — Enter a name for this Director or Edge Switch as appropriate for your SAN. Click **Set Name As Nickname**, which will display a check mark in the box. This will be the name that will be displayed with the icon for this Director or Edge Switch in the HAFM Product View and Fabric View is displayed.
 - Description — Enter the address of your installation.
 - Location — Enter the WFM Site ID and Super Region code, as obtained in [Obtaining required information](#), separated by “~” (tilde) characters, as shown in the following example
US1234567890~AA
 - Contact — Enter the contact name, phone number, and company name exactly as provided to HP in [Obtaining required information](#), separated by “~” (tilde) characters, as follows:
FirstName~LastName~PhoneNumber~CompanyName
For example:
Joe~Smith~5085551515~ABCCompany
4. Click **Activate**. The Configure Identification dialog box closes and the Element Manager window at the Hardware View for this device is still displayed.
5. On the menu bar, click **Maintenance > Enable Call Home Notification**.
6. Place a check mark in the **Enable Call Home Event Notification** option.
7. See [Testing remote notification](#) for instructions on testing the call home feature.

Configuring proactive services call home via LAN feature

The HAFM appliance call home via LAN feature provides automatic event notification to a support center for reporting Director or Edge Switch problems. In order to report events, this feature requires the HAFM appliance to have a valid LAN connection to a

SANworks Management appliance or other server running the HP Proactive Services software.



NOTE:

To order Proactive Services software, contact your HP customer service representative.

Configuring call home via LAN on the HAFM appliance

Use these steps to configure call home on the HAFM appliance.

1. Verify that the HAFM appliance is connected to a LAN with access to the server running the HP Proactive Services software.
2. Locate the hp-lan.properties file in the following location:
`<install_home>\CallHome\Config`

Following is an example of file contents:

```
CSGIpAddress=localhost
```

3. Using any ASCII text editor, make the following changes to the hp-lan.properties file:
 - a. CSGIIPAddress — Delete localhost and enter the IP address of the HP Services Gateway in appropriate format (xxx.xxx.xxx.xxx).
4. If you have changed the contents of the hp.lan.properties file, reboot the HAFM appliance.

Enabling call home via LAN

The HAFM appliance is now configured to automatically call home through the LAN connection to a service support facility to report Director, Edge Switch, or HAFM appliance problems.

You must now enable the call home feature on the HAFM appliance itself as well as each Director and Edge Switch through the HAFM application on the HAFM appliance.

To enable the call home feature on the HAFM appliance:

1. Log in to HAFM (see [Logging into HAFM](#). The HAFM main window is displayed ([Figure 56](#)).
2. Click **Monitor > Event Notification > Call Home....** The Call Home Event Notification Setup dialog box is displayed ([Figure 57](#)).

3. Place a check mark in the **Enable Call Home Event Notification** option. This enables the call home function for the HAFM appliance, as well as for all Directors and Edge Switches that have also been enabled for call home notification.

To enable the call home feature on individual Directors and Edge Switches, perform the following for each Director and Edge Switch:

1. From the HAFM main window, open the Element Manager for the device. The Hardware View for the device is displayed.
2. Click **Maintenance > Enable Call Home Notification**.
3. Place a check mark in the **Enable Call Home Event Notification** option.
4. See [Testing remote notification](#) for instructions on testing the call home feature.

Testing remote notification

If call home notification features are enabled, set up the HAFM application to test these remote notification features. Because the features are configured at the HAFM application, call home event notification is enabled for multiple Directors and Edge Switches.



NOTE:

Prior to testing remote notification, complete the steps in the previous sections:

- Configure the call home via Dial-Out Feature
- Configure Proactive Services Call Home via LAN Feature

To test remote notification:

1. Enable call home event notification through the HAFM appliance.
 - a. Click **Monitor > Event Notification > Call Home....** The Call Home Event Notification Setup dialog box is displayed ([Figure 57](#)).
 - If a check mark is displayed in the check box, call home is enabled.
 - If a check mark does not display in the check box, click the box to add a check mark.
2. Click **Send Test**. A call home test message is transmitted and an Information dialog box is displayed.
3. Click **OK**.

Confirm with the HP technical support representative assisting you with configuration of the call home feature that the call home test was successful.

Configuring e-mail event notification

In addition to call home functionality, notifications of many events can be sent via e-mail. You can configure e-mail addresses for administrators or others who should be notified of significant product events.

For information on configuring e-mail event notification, see *HP StorageWorks HA-Fabric Manager User Guide*.

A Regulatory compliance and safety

Regulatory compliance

Federal Communications Commission (FCC) Notice

Part 15 of the Federal Communications Commission (FCC) Rules and Regulations has established Radio Frequency (RF) emission limits to provide an interference-free radio frequency spectrum. Many electronic devices, including computers, generate RF energy incidental to their intended function and are, therefore, covered by these rules. These rules place computers and related peripheral devices into two classes, A and B, depending upon their intended installation. Class A devices are those that may reasonably be expected to be installed in a business or commercial environment. Class B devices are those that may reasonably be expected to be installed in a residential environment (i.e., personal computers). The FCC requires devices in both classes to bear a label indicating the interference potential of the device as well as additional operating instructions for the user.

The rating label on the device shows which class (A or B) the equipment falls into. Class B devices have an FCC logo or FCC ID on the label. Class A devices do not have an FCC logo or FCC ID on the label. Once the class of the device is determined, refer to the following corresponding statement.

Class A equipment

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at personal expense.

Class B equipment

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit that is different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or television technician for help.

Declaration of conformity for products marked with FCC logo—United States only

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For questions regarding your product, visit <http://www.hp.com>.

For questions regarding this FCC declaration, contact us by mail or telephone:

- Hewlett-Packard Company
P.O. Box 692000, Mailstop 510101

Houston, Texas 77269-2000
- 1-281-514-3333

To identify this product, refer to the part, Regulatory Model Number, or product number found on the product.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Hewlett-Packard Company may void the user's authority to operate the equipment.

Cables

Connections to this device must be made with shielded cables with metallic RFI/EMI connector hoods in order to maintain compliance with FCC Rules and Regulations.

Regulatory compliance identification numbers

For the purpose of regulatory compliance certifications and identification, your product has been assigned a unique Regulatory Model Number. The RMN can be found on the product nameplate label, along with all required approval markings and information. When requesting compliance information for this product, always refer to this RMN. The Regulatory Model Number should not be confused with the marketing name or model number of the product.

Laser device

All HP systems equipped with a laser device comply with safety standards, including International Electrotechnical Commission (IEC) 825. With specific regard to the laser, the equipment complies with laser product performance standards set by government agencies as a Class 1 laser product. The product does not emit hazardous light.

Laser safety warning



WARNING!

To reduce the risk of exposure to hazardous radiation:

- Do not try to open the laser device enclosure. There are no user-serviceable components inside.
 - Do not operate controls, make adjustments, or perform procedures to the laser device other than those specified herein.
 - Allow only HP authorized service technicians to repair the laser device.
-

Certification and classification information

This product contains a laser internal to the fiber optic (FO) transceiver for connection to the Fibre Channel communications port.

In the USA, the FO transceiver is certified as a Class 1 laser product conforming to the requirements contained in the Department of Health and Human Services (DHHS) regulation 21 CFR, Subchapter J. A label on the plastic FO transceiver housing indicates the certification.

Outside the USA, the FO transceiver is certified as a Class 1 laser product conforming to the requirements contained in IEC 825-1:1993 and EN 60825-1:1994, including Amendment 11:1996 and Amendment 2:2001.

Laser product label

The optional label in [Figure 59](#) or equivalent may be located on the surface of the HP supplied laser device.



Figure 59 Class 1 laser product label

International notices and statements

Canadian notice (Avis Canadien)

Class A equipment

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Class B equipment

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

European Union notice

Products bearing the CE marking comply with the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community and if this product has telecommunication functionality, the R&TTE Directive (1999/5/EC).

Compliance with these directives implies conformity to the following European Norms (in parentheses are the equivalent international standards and regulations):

- EN 55022 (CISPR 22) - Electromagnetic Interference
- EN55024 (IEC61000-4-2, IEC61000-4-3, IEC61000-4- 4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-8, IEC61000-4-11) - Electromagnetic Immunity
- Power Quality:
 - EN61000-3-2 (IEC61000-3-2) - Power Line Harmonics
 - EN61000-3-3 (IEC61000-3-3) - Power Line Flicker
- EN 60950 (IEC 60950) - Product Safety
- Also approved under UL 60950/CSA C22.2 No. 60950-00, Safety of Information Technology Equipment.

BSMI notice

警告使用者：

這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

Japanese notice

ご使用になっている装置にVCCIマークが付いていましたら、次の説明文をお読み下さい。

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取り扱いをして下さい。

VCCIマークが付いていない場合には、次の点にご注意下さい。

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

Korean notices

A급 기기 (업무용 정보통신기기)

이 기기는 업무용으로 전자파적합등록을 한 기기이오니 판매자 또는 사용자는 이 점을 주의하시기 바라며, 만약 잘못판매 또는 구입하였을 때에는 가정용으로 교환하시기 바랍니다.

B급 기기 (가정용 정보통신기기)

이 기기는 가정용으로 전자파적합등록을 한 기기로서 주거지역에서는 물론 모든지역에서 사용할 수 있습니다.

Safety

Battery replacement notice

Your computer is equipped with a lithium manganese dioxide, a vanadium pentoxide, or an alkaline internal battery or battery pack. There is a danger of explosion and risk of personal injury if the battery is incorrectly replaced or mistreated. Replacement is to be done by an HP authorized service provider using the HP spare part designated for this product. For more information about battery replacement or proper disposal, contact an HP authorized reseller or HP authorized service provider.



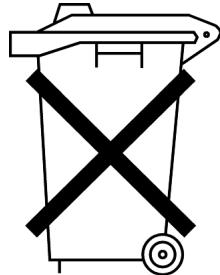
WARNING!

Your computer contains an internal lithium manganese dioxide, a vanadium pentoxide, or an alkaline battery pack. There is risk of fire and burns if the battery pack is not properly handled. To reduce the risk of personal injury:

- Do not attempt to recharge the battery.
- Do not expose to temperatures higher than 60° C.
- Do not disassemble, crush, puncture, short external contacts, or dispose of in fire or water.

- Replace only with the HP spare part designated for this product.
-

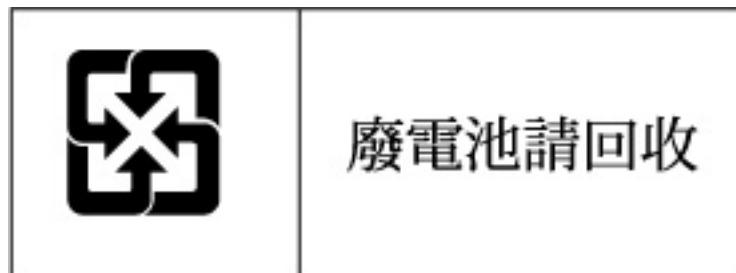
Batteries, battery packs, and accumulators should not be disposed of with the general household waste. Please use the public collection system for recycling or proper disposal or return them to HP, your authorized HP partners, or their agents.



For more information about battery replacement or proper disposal, contact an HP authorized reseller or service provider.

Taiwan battery recycling notice

The Taiwan EPA requires dry battery manufacturing or importing firms in accordance with Article 15 of the Waste Disposal Act to indicate the recovery marks on the batteries used in sales, giveaway or promotion. Contact a qualified Taiwanese recycler for proper battery disposal.



Power cords

The power cord set must meet the requirements for use in the country where the product was purchased. If the product is to be used in another country, purchase a power cord that is approved for use in that country.

The power cord must be rated for the product and for the voltage and current marked on the product electrical ratings label. The voltage and current rating of the cord should be greater than the voltage and current rating marked on the product. In addition, the diameter of the wire must be a minimum of 1.00 mm² or 18 AWG, and the length of the cord must be between 1.8 m (6 ft) and 3.6 m (12 ft). If you have questions about the type of power cord to use, contact an HP authorized service provider.



NOTE:

Route power cords so that they will not be walked on and cannot be pinched by items placed upon or against them. Pay particular attention to the plug, electrical outlet, and the point where the cords exit from the product.

Japanese power cord notice

製品には、同梱された電源コードをお使い下さい。
同梱された電源コードは、他の製品では使用出来ません。

Electrostatic discharge

To prevent damage to the system, be aware of the precautions you need to follow when setting up the system or handling parts. A discharge of static electricity from a finger or other conductor may damage system boards or other static-sensitive devices. This type of damage may reduce the life expectancy of the device.

Preventing electrostatic discharge

To prevent electrostatic damage, observe the following precautions:

- Avoid hand contact by transporting and storing products in static-safe containers.
- Keep electrostatic-sensitive parts in their containers until they arrive at static-free workstations.
- Place parts on a grounded surface before removing them from their containers.
- Avoid touching pins, leads, or circuitry.
- Always be properly grounded when touching a static-sensitive component or assembly (see [Grounding methods](#)).

Grounding methods

There are several methods for grounding. Use one or more of the following methods when handling or installing electrostatic-sensitive parts:

- Use a wrist strap connected by a ground cord to a grounded workstation or computer chassis. Wrist straps are flexible straps with a minimum of 1 megohm +/- 10 percent resistance in the ground cords. To provide proper ground, wear the strap snug against the skin.
- Use heel straps, toe straps, or bootstraps at standing workstations. Wear the straps on both feet when standing on conductive floors or dissipating floor mats.
- Use conductive field service tools.
- Use a portable field service kit with a folding static-dissipating work mat.

If you do not have any of the suggested equipment for proper grounding, have an Authorized HP Reseller install the part.



NOTE:

For more information on static electricity, or assistance with product installation, contact your Authorized HP Reseller.

B Tools required

Tools required to install the HAFM appliance and associated hardware include a:

- Door key with 5/16-inch socket (provided with the cabinet).
- #2 Phillips screwdriver.
- 5/16 open-end wrench.
- Standard (7-inch) slip-joint pliers.
- Standard (4-inch) diagonal side-cutter pliers.

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